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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,155	10/31/2006	Hermann De Ciutiis	27551U	7630
20529	7590	11/25/2009		
THE NATH LAW GROUP 112 South West Street Alexandria, VA 22314			EXAMINER DUCHENEAUX, FRANK D	
			ART UNIT	PAPER NUMBER
			1794	
			MAIL DATE	DELIVERY MODE
			11/25/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/593,155

Applicant(s)

DE CIUTIS ET AL.

Examiner

FRANK D. DUCHENEAUX

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/3/2009 has been entered.

Examiner Notes

The examiner cancellation of claims 6 and 11 in the amendments dated 11/3/2009.

Response to Amendment

2. Applicant's arguments, see page 9, filed 11/3/2009, with respect to the objection to the specification have been fully considered and are persuasive. The objection of specification has been withdrawn.

3. Applicant's arguments, see page 10, filed 11/3/2009, with respect to the rejection of claims 6 and 11 under 35 U.S.C. 112, 1st paragraph have been fully considered and are persuasive. The rejection of claims 6 and 11 has been withdrawn.

4. Applicant's arguments, see pages 10-11, filed 11/3/2009, with respect to the rejection of claims 1-11 under 35 U.S.C. 112, 2nd paragraph have been fully considered and are persuasive. The rejection of claims 1-11 has been withdrawn.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. **Claims 1-5 and 7-10** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites the limitation(s) "each of the plurality of the folding pockets having a random deformation in comparison to any other of each of the plurality of the folding pockets." Applicants' attention is directed to page 6, lines 32-34. It is noted that the underlined portion of the amended claim portions is not supported by the original specification and as such, the underlined portions constitute new matter.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. **Claims 1-5 and 8-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ragland et al. (US 2001/0010865 A1) in view of Butler (US 5656353) as evidenced in [AZDEL, Inc.] of AZMET product descriptions.

Regarding claims 1-5 and 10, Ragland teaches multilayer metal foil structures which have utility as heat shields (para 0001), useful as a shield to the underbody of a vehicle (para 0029, lines 9-10), comprising at least three corrugated (plurality of folding pockets, unperforated) metal layers which are metal foil layers having a thickness of 0.15 mm or less such as 0.05 mm (para 0007, lines 1-9), said metal foil being aluminum (para 0031, lines 1-3) and said corrugations having a nonuniform and irregular shape (random, compared to other folding

pockets) that are compressed (deformation) to fold and interlock (mechanical anchoring) (para 012, lines 5-9). Ragland also teaches alternate material layers in between (embedded) the corrugated metal layers such as plastic films (carrier layer), adhesives and fibers to enhance acoustic damping properties (para 0013, lines 36-38 and para 0031, lines 7-13).

Ragland is silent to a carrier layer made of a thermoplastic synthetic (claim 1), said thermoplastic synthetic is an endless fiber reinforced thermoplast (claim 2) or a glass fiber reinforced synthetic (claim 3).

However, Butler teaches an automotive vehicle heat shield (abstract) made of a laminated sheet material of a metallic reflective layer attached to an insulating layer (column 1, lines 47-49), with one layer made of a thermoplastic material and the other layer comprising a reflective metallic layer and that the thermoplastic material (synthetic) is made of AZMET polyester resin (sold by [AZDEL, Inc], containing polybutylene terephthalate containing 35% long glass fiber or polyethylene terephthalate containing 35% long glass fiber as evidenced in AZMET production description included with the previous action) (column 2, lines 27-32). Butler also teaches that the structural plastic layer provides the necessary structure to the heat shield (column 1, lines 65-66). It is noted that the combination of the Ragland and Butler reference provides a heat-protected thermoplastic component.

The examiner notes, that while Butler does not disclose all the features of the presently claimed invention, Butler is used as teaching reference, and therefore, it is not necessary for this

secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely fiber-reinforced thermoplastics used as a structural component layer in a heat-shield, and in combination with the primary reference, discloses the presently claimed invention.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the disclosed inventions of Ragland and Butler towards a heat shielding laminate wherein said heat shield comprises a fiber reinforced thermoplastic layer for providing structural support to the heat shield and insulation to portions of a vehicle requiring thermal insulation from heated portions of the vehicle as in the present invention.

Regarding claims 8-9, given that the combination of Ragland and Butler disclose components identical to that as claimed by applicant(s) - including metallic layer and fiber reinforced thermoplastic - it is clear that the heat shield as taught by the combined references of Ragland and Butler would intrinsically possess a peeling strength as presently claimed.

10. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ragland et al. (US 2001/0010865 A1) in view of Butler (US 5656353) as evidenced in [AZDEL, Inc.] of AZMET product descriptions and in further view Heucher et al (US 5883172).

Regarding claim 7, Ragland and Butler teach a heat-shield as in the rejection of claim 1 above. Ragland and Butler are silent to a hotmelt adhesive provided between a foil and a carrier layer.

However, Heucher teaches a polyamide hotmelt adhesive (title), usable in the automotive industry (column 1, line 61), said hotmelts used to bond non-pretreated metals, e.g. aluminum, to plastics, e.g. polyethylene (abstract and column 2, lines 2-5). Heucher continues to teach hotmelts with high peel strengths on metals and lower permeability to water vapor (column 5, lines 8-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a hotmelt adhesive as taught by Heucher between a metal foil and fiber reinforced thermoplastic layer taught by Ragland and Butler towards a heat shield with increased bonding between the two layers and water impermeability, thereby improving the durability of the heat shield's structure as in the present invention.

Response to Arguments

11. Applicant's arguments, see pages 11-15, dated 11/3/2009 with respect to the rejection of claims 1, 3-5, 8 and 9 over Ehrat et al. under 35 U.S.C. 102(b); claim 2 over Ehrat et al. in view of Scoular et al. under 35 U.S.C. 103(a); claims 5, 6 and 10-11 over Ehrat et al. under 35 U.S.C. 103(a); and claim 7 over Ehrat et al. in view of Heucher et al. have been considered but are moot in view of the new ground(s) of rejection.

The examiner notes that while Heucher et al. does not disclose all the features of the present claimed invention, Heucher is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nieveit*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely hotmelt adhesive used in the automotive industry to bond metal and plastics with increased peeling strengths and water impermeability, and in combination with the primary references, discloses the presently claimed invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANK D. DUCHENEAUX whose telephone number is (571)270-7053. The examiner can normally be reached on M-Th, 7:30 A.M. - 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie E. Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. D. D./
Examiner, Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794